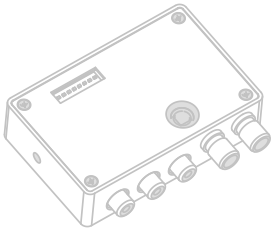
Stereo RF Modulator

USER'S MANUAL



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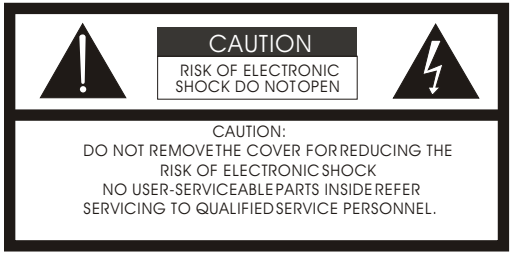
BEFORE OPERATING THE UNIT,
PLEASE READ THIS MANUAL THOROUGHLY

SAFETY INFORMATION


CAUTION
RISK OF ELECTRONIC SHOCK DO NOT OPEN
CAUTION:
DO NOT REMOVE THE COVER FOR REDUCING THE RISK OF ELECTRONIC SHOCK
NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING:

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

Safety term and Symbols

Warning: Warning statements identify conditions or practices that could result in injury or loss of life.

Caution: Caution statements identify conditions or practices that could result in damage to this product or other property.

Danger: Do not remove the cover for reducing the risk of electric shock.

IMPORTANT SAFETY INSTRUCTIONS

1. All the safety and operating instructions should be read before the product is operated.
2. The safety and operating instructions should be retained for future reference.
3. All warnings on the product and in the operating instructions should be adhered to.
4. All operating and use instructions should be followed.
5. Unplug this products from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for the cleaning.
6. Do not use attachments not recommended by the products manufacturer if they may cause hazards.
7. Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool; and the like.
8. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
9. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type or power supply to your home, consult your product dealer or local Power Company. For products intended to operate from battery power, or other sources, refer to the operating instruction.
10. Power supply cord should be routed so that are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, or other sources, refer to the operating instructions.
11. For added protection for this product during a lightning storm, or it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect cable system. This will prevent damage to the product due to lightning and powerline surges.
12. Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electronic shock. Never spill liquid of any kind on the product.
13. Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
14. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions.

- When the power-supply cord or plug is damaged.
- If liquid have been spilled, or objects have fallen into the products.
- If the product does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore this product to its normal operation.

- If the products has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance - this indicates a need for service.

15. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

16. Upon completion of any service or repair to this product, ask the service technician to perform safety checks to determine that the product is in proper operating conditions.

17. The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products including amplifiers that produce heat.

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❶ Introduction

1.1 Overview

This stereo RF modulator is a programmable modulator which generates an RF TV channel from a baseband video and audio signal. It is the practical solution of building your home AV network. It can use current cable network in the house to transmit a good quality Audio Video to another room, even remote control the A/V source on you own way.

1.2 Main Features

- PAL B/G stereo
- Dip switch channel selector
- High output power up to 82dBμV
- Dual input power source
- Remote control extension via cable
- A/V output for widely application
- Cost effective for your own local CATV system

1.3 Applications

- Home AV network
- Hotel local TV program system

1.4 Specification

RF Modulator

Item	Specification
Standard	PAL B/G
Frequency Range	UHF: 470~862MHz VHF: 126~300MHz **Europe:** Ch. 21~69 Ch. S4~S20, E5~E12 **Australia:** Ch. 21~69 Ch. 6~12
Output Power	82/72dBμV (Typical)
Harmonic	>55dBc
Third distortion	>58dBc
Isolation	>20dBc
Insertion loss	<1.5dB@800MHz <4.0dB@2.3GHz
Audio carrier frequency	5.5, 5.742MHz
Audio frequency response	50-15KHz
Audio input level	1.7 Vpp max.
Separation	>20dB (Typical) (test frequency:1KHz/1.7Vpp)
Current consumption	110mA
Input power	DC 9V/300mA for adaptor. 13/18V for satellite receiver
Power adaptor	DC 9V / 300mA
Operating Temperature	0℃ ~ 50℃
Dimension(mm)	85.8(L)X68.4(W)X21.3(H)
IR emitting freq.	38kHz.
IF frequency	455kHz
IR emitting range	5m Typ.
Sensitivity	<-80dBm

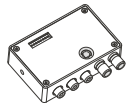
IR Extender Transmitter

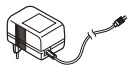
Item	Specification
Modulation	FSK
Deviation	5kHz
Center frequency	27.045MHz / 27.145MHz 27.095MHz / 27.195MHz
Data rate	5Kbps Max.
Output power	-20dBm typ.
Insertion Loss	< 3dB@860MHz
L.O. leakage to TV port	<-80dBm
Current Consumption	10mA typ.

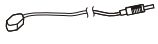
◎ Specification subject to change without prior notice.

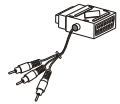
2 Check package before use

1. RF Modulator X 1
2. IR Transmitter X 1
3. Power Adaptor (9V 300mA) X 2
4. IR cable X 1
5. SCART to RCA Adaptor X 1
6. Users manual X 1





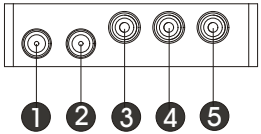




3 Controls

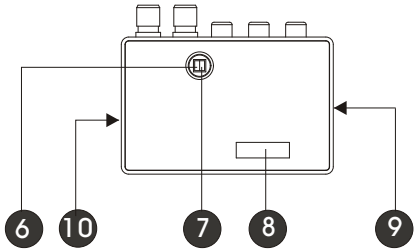
3.1 RF Modulator

Rear View



1. RF +1 ch output and IR signal input
2. RF input
3. Video Input
4. Audio Left
5. Audio Right

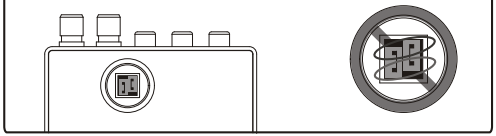
Bottom View



6. Left: DC source switch (DC jack power supply only if you remove the jumper)
7. Right: Video loaded jumper (unplug when using video splitter)

Caution:

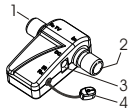
Do not plug the jumpers horizontally to avoiding any damage in Set-top Box.



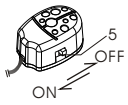
8. Channel switch: sw1 to sw7 for channel switch, sw8 for test pattern on/off (if sw8 is on, there will be two white bar on TV screen on the channel that you selected. sw9 for high /low power.
9. DC jack
10. IR emitter Jack

3.2 IR Transmitter

1. F-Connector (To TV)
2. F-Connector (RF In)
3. DC Jack
4. IR Extender Mouse
5. Power On/Off Button

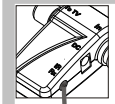


IR Transmitter

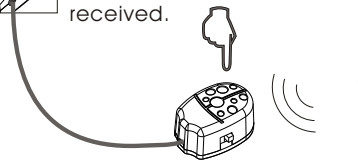


IR Extender Mouse

Note 1:



IR mouse built-in a LED, when you use Remote control, LED will flash to indicate signal received.

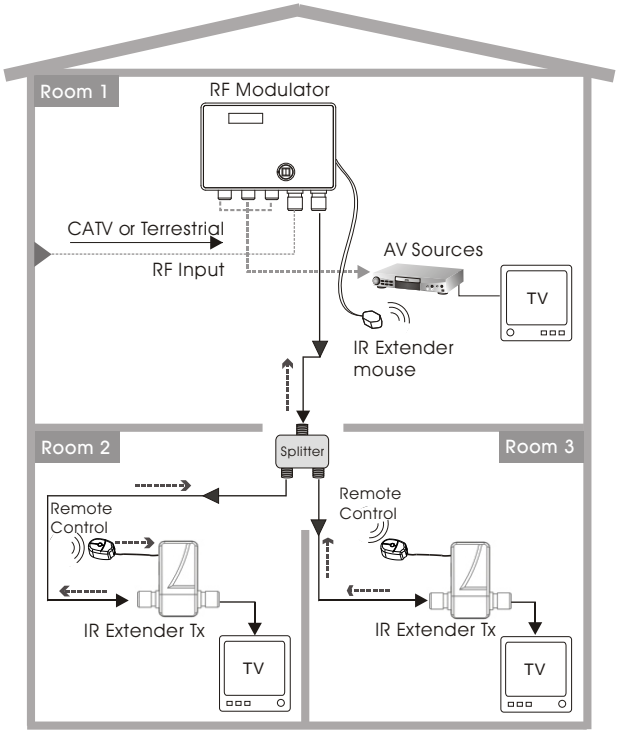


Note 2:

Because of FSK Modulation designed in IR Transmitter, all IR Transmitters can not work at the same time. Make sure to power off other IR Extender mouse and only leave one which you are using in the viewing room.

4 Figure Illustration

1. AV Sources: VCD/DVD Plays, Satellite Receiver etc..
2. RF Sources: Satellite/Terrestrial/Cable Broadcasting or other RF Sources.



5 Installation and Operation

5.1 Work with VCD/DVD players.

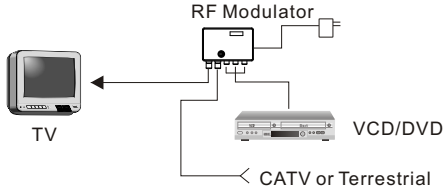


Figure 1.

1. Turn off all A/V equipments power.
2. Connect RF modulator and VCD/DVD players by A/V cable.
3. To connect RF modulator, Television and RF sources by coaxial cable.
4. Connect power adaptor with RF modulator and plug it into power socket.
5. Connect the IR Transmitter to TV by coaxial cables.
6. Connect a 9V/300mA power adaptor with IR Transmitter, then plug the power adaptor into socket outlet,
7. Turn on the A/V source and television.
8. Set up the RF Modulator on the empty channel.

   Please refer to "5.5 Channel selection"
9. Check the program signal can be properly transmitted from RF Modulator, and received by the TV ends in other rooms.
10. Using Remote control to check IR function work smoothly. When you are using Remote Control, the IR Extender mouse built-in a LED will flash to indicate the IR Transmitter has received IR signal.

5.2 Work with Satellite Receiver.

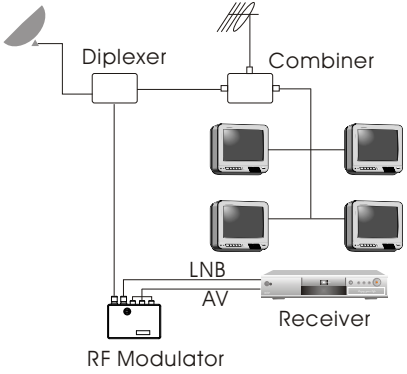


Figure 2.

1. Turn off all A/V equipments power.
2. Connect RF modulator and satellite receiver by A/V cable.
3. To connect RF modulator, Television or Diplexer by coaxial cable.
4. Satellite receiver can supply power, no extra power needed by RF Modulator.
5. Connect the IR Transmitter to TV by coaxial cables.
6. Connect a 9V/300mA power adaptor with IR Transmitter, then plug the power adaptor into socket outlet,
7. Turn on the A/V source and television.
8. Set up the RF Modulator on the empty channel.

   Please refer to "5.5 Channel selection"

9. Check the program signal can be properly transmitted from RF Modulator, and received by the TV ends in other rooms.
10. Using Remote control to check IR function work smoothly. When you are using Remote Control, the IR Extender mouse built-in a LED will flash to indicate the Diplexer has received IR signal.

5.3 Connect the second load when AV source has just one output

This RF Modulator offers an extended loop through function. Satellite receiver can transmit program to the TV beside it through AV cable with high quality AV signal, and it can also transmit the program to the other rooms through the RF modulator.

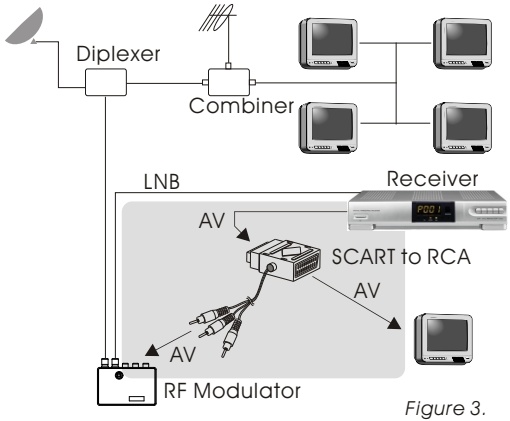


Figure 3.

1. Turn off all A/V equipments power.
2. Connect RF modulator, television and satellite receiver by SCART to RCA Adaptor.(refer to Figure 3.)
3. Remove jumper 7
4. To connect RF modulator, satellite receiver or Diplexer by coaxial cable.
5. Satellite receiver can supply power, no extra power needed by RF Modulator.
   Please refer to "5.4 Dual power sources".
6. Connect a 9V/300mA power adaptor with IR Transmitter, then plug the power adaptor into socket outlet,
7. Turn on the A/V source and television.
8. Set up the RF Modulator on the empty channel.
   Please refer to "5.5 Channel selection"
9. Check the program signal can be properly transmitted from RF Modulator, and received by the TV ends in other rooms.
10. Using Remote control to check IR function work smoothly. When you are using Remote Control, the IR Extender mouse built-in a LED will flash to indicate the Diplexer has received IR signal.

5.4 Dual power sources

The RF Modulator can use the power from adaptor or satellite receiver. If you connect to both power source at same time, the higher one will be used (normally, the DC power from satellite receiver will be 13/18V, the adaptor is 9V). Remove the jumper 6 can force the modulator using the power from Power Adaptor.

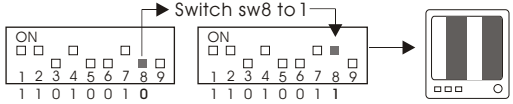
5.5 Channel selection

This RF modulator is designed in double side band modulation that occupies two channel space. The program you are going to have in your home network should be placed at the higher channel of at least two continuous empty channels, and it is better to set program on the middle of three continuous empty channel.

5.6 How to check channel selected

This RF Modulator offers an internal video test pattern- if you switch sw8 to 1, and TV screen shows up black and white bars, that is you have gotten the correct channel.

E5:11010010



Internal video test pattern

6 Trouble Shooting

6.1 No picture or sound

- Check all the cables well and connected rightly.
- Check the channels correctly set up. Please refer to "5.6 How to check channel selected".

6.2 The brightness of image abnormal

- Too light: Check jumper 7 plug rightly
- Too dark: Check jumper 7 removed if there is other loading or it is connecting with TV.

6.3 Interfere the adjacent channels:

- Re-set up the program to other empty channel.
  Please refer to "5.5 Channel Selection".

6.4 LNB can not work properly

- Remove jumper 6 and plug power adaptor to force RF modulator consuming power from socket outlet instead of that from satellite receiver.

6.5 Distortion of sound

- Turn down the volume of AV source.

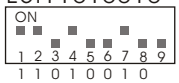
6.6 Badly work on Remote Control

- Check all the cables well and connected rightly.
- Check the adaptor rightly connected and well.
- Make sure the Power Button on IR Extender Mouse of Transmitter at " Power On" mode.
- Make sure other IR Extender mouses have been powered off.
- Check if the remote controller is out of battery.
- Make sure your remote controller is able to align the IR Extender.
- Make sure the range between remote controller and IR Extender Mouse is less than 10m.
- Check if the IR Extender Mouse of Receiver is rightly positioned in front of the AV Sources.

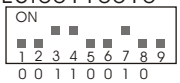
7 Channel Lists

Adjust Dip switch to get the channel.

E5:11010010



E6:00110010



7.1 Table of European Channels

Channel		Video carrier	Switch position 12345678
	A	53.75	11100010
	E2	48.25	00010010
	E3	55.25	10010010
	E4	62.25	01010010
▲	E5	175.25	11010010
▲	E6	182.25	00110010
▲	E7	189.25	10110010
▲	E8	196.25	01110010
▲	E9	203.25	11110010
▲	E10	210.25	00001010
▲	E11	217.25	10001010
▲	E12	224.25	01001010
	S1	183.75	10000000
	S2	192.25	01000000
	S3	201.25	11000000
▲	S4	126.25	00100000
▲	S5	133.25	10100000
▲	S6	140.25	01100000
▲	S7	147.25	11100000
▲	S8	154.25	00010000
▲	S9	161.25	10010000
▲	S10	168.25	01010000
▲	S11	231.25	11010000
▲	S12	238.25	00110000
▲	S13	245.25	10110000
▲	S14	252.25	01110000
▲	S15	259.25	11110000

▲ Frequency range: 126-300MHz

Channel		Video carrier	Switch position 12345678
▲	S16	266.25	00001000
▲	S17	273.25	10001000
▲	S18	280.25	01001000
▲	S19	287.25	11001000
▲	S20	294.25	00101000
●	21	471.25	10101000
●	22	479.25	01101000
●	23	487.25	11101000
●	24	495.25	00011000
●	25	503.25	10011000
●	26	511.25	01011000
●	27	519.25	11011000
●	28	527.25	00111000
●	29	535.25	10111000
●	30	543.25	01111000
●	31	551.25	11111000
●	32	559.25	00000100
●	33	567.25	10000100
●	34	575.25	01000100
●	35	583.25	11000100
●	36	591.25	00100100
●	37	599.25	10100100
●	38	607.25	01100100
●	39	615.25	11100100
●	40	623.25	00010100
●	41	631.25	10010100
●	42	639.25	01010100

▲ Frequency range:126-300MHz

Channel		Video carrier	Switch position 12345678
●	43	647.25	11010100
●	44	655.25	00110100
●	45	663.25	10110100
●	46	671.25	01110100
●	47	679.25	11110100
●	48	687.25	00001100
●	49	695.25	10001100
●	50	703.25	01001100
●	51	711.25	11001100
●	52	719.25	00101100
●	53	727.25	10101100
●	54	735.25	01101100
●	55	743.25	11101100
●	56	751.25	00011100
●	57	759.25	10011100
●	58	767.25	01011100
●	59	775.25	11011100
●	60	783.25	00111100
●	61	791.25	10111100
●	62	799.25	01111100
●	63	807.25	11111100
●	64	815.25	00000010
●	65	823.25	10000010
●	66	831.25	01000010
●	67	839.25	11000010
●	68	847.25	00100010
●	69	855.25	10100010

● Frequency range: 470-860MHz

7.2 Table of Australian Channels

Channel		Video carrier	Switch position 12345678
▲	6	175.25	01100000
▲	7	182.25	11100000
▲	8	189.25	00010000
▲	9	196.25	10010000
▲	9A	203.25	01010000
▲	10	209.25	11010000
▲	11	216.25	00110000
▲	12	224.25	10110000
●	21	478.25	10101000
●	22	485.25	01101000
●	23	492.25	11101000
●	24	499.25	00011000
●	25	506.25	10011000
●	26	513.25	01011000
●	27	520.25	11011000
●	28	527.25	00111000
●	29	534.25	10111000
●	30	541.25	01111000
●	31	548.25	11111000
●	32	555.25	00000100
●	33	562.25	10000100
●	34	569.25	01000100
●	35	576.25	11000100
●	36	583.25	00100100
●	37	590.25	10100100
●	38	597.25	01100100
●	39	604.25	11100100

▲ Frequency range:126-300MHz

Channel		Video carrier	Switch position 12345678
●	40	611.25	00010100
●	41	618.25	10010100
●	42	625.25	01010100
●	43	632.25	11010100
●	44	639.25	00110100
●	45	646.25	10110100
●	46	653.25	01110100
●	47	660.25	11110100
●	48	667.25	00001100
●	49	674.25	10001100
●	50	681.25	01001100
●	51	688.25	11001100
●	52	695.25	00101100
●	53	702.25	10101100
●	54	709.25	01101100
●	55	716.25	11101100
●	56	723.25	00011100
●	57	730.25	10011100
●	58	737.25	01011100
●	59	744.25	11011100
●	60	751.25	00111100
●	61	758.25	10111100
●	62	765.25	01111100
●	63	772.25	11111100
●	64	779.25	00000010
●	65	786.25	10000010
●	66	793.25	01000010

● Frequency range: 470-860MHz

Channel		Video carrier	Switch position
			12345678
●	67	800.25	11000010
●	68	807.25	00100010
●	69	814.25	10100010

● Frequency range: 470-860MHz